

DOT Monitoring Program for Hot Mix Asphalt Technician

The Certified HMA Technician's Guide provides an overview of the duties and responsibilities of HMA Technicians when Quality Management – Asphalt (QM-A) applies. It is intended to provide a general outline of inspection activities. IT IS ESSENTIAL THAT ANYONE USING THIS GUIDE REFER TO THE SPECIFICATIONS, IMs, AND CONSTRUCTION MANUAL SECTIONS FOR A COMPLETE DESCRIPTION OF REQUIREMENTS.

Before production begins, the contractor's certified technician and the Engineer should discuss these duties, documentation, sampling and testing plans to ensure compliance with current specifications and IM 214. Any noncompliance or work quality deficiency shall be immediately reported to the contractor's superintendent and the resident construction engineer. The contractor shall be required to take corrective action. The monitoring requirements are minimum and should be increased if deficiencies occur until the problems are resolved. Construction and materials personnel, upon mutual agreement, may shift monitoring responsibilities between each other to accommodate problems with personnel availability through greater schedule flexibility.

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Minimum Monitoring Requirement

References

Stockpiles

Observe construction of stockpiles to prevent segregation, contamination, and intermingling.

* Inspect before construction begins and during plant monitor visits.

Specification 2303
I.M. 508

Plant Erection

Inspect material bin foundations.
Assure sampling locations are safe and convenient.

* Inspect prior to calibration.
Visually inspect for safety concerns.

Article 2001.06
Article 1107.07

Plant Equipment

Check interlocks on aggregate feeders and asphalt binder delivery systems, screens for removal of oversize material, asphalt binder storage tank, tank stick and general condition of all plant equipment.

* Inspect all plant and testing equipment prior to or at the time of calibration (including laboratory trailer and QM-A equipment).

Article 2001.22
Specification 2303
Specification 2520
Specification 2521
I.M. 508, App. A

Perform check weighing and verification weighing as per prescribed frequency.

Monitor first day and once per week thereafter.
Check truck tare weights the first day a truck is used on the project when platform scales are used.

Const. Man. 3.50
Article 2001.07
I.M. 508

*To be performed by District Materials.

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Certified HMA Technician	Minimum Monitoring Requirement	References
Plant Calibration		
Observe calibration and obtain a copy of all calibration data.	* Observe calibration.	I.M. 508
Obtain a copy of job mix formula and "Proportions and Production Limits" (Form 820955).	* Review calibration data and job mix formula.	
Check cold feed bins for method of adjustment.	* Inspect method for securing the bin gate settings.	
Discuss mix designs and plant controls with District Materials personnel.	* Participate in discussion.	
Plant Sampling and Testing		
Obtain 3 aggregate samples per lot, split only the sample(s) to be tested, determine and record process control gradation. Forward split samples to the District Materials Laboratory with Form 820193. Determine moisture content of all aggregates including RAP.	Witness at least 1 of the first 3 process samples of each mix design and a minimum of 10% of the remaining samples. * Perform acceptance testing frequency as per I.M. 204. Monitor for correlation.	Const. Man. 3.21 Const. Man. 3.22 Specification 2534 I.M. 508, I.M. 216
Obtain asphalt binder samples and forward to the District Materials Laboratory.	* Observe sampling at calibration and during monitor visits.	I.M. 204
Monitor conditions of density cores and core thickness.	Identify random core locations, observe core cutting, transport to field laboratory, witness testing and record core densities and Q.I. Issue noncompliance if necessary. *Transportation Center Laboratory to test first density set and one additional set per week at random. *To be performed by District Materials.	Specification 2303 I.M. 320 I.M. 321

DOT Monitoring Program for Hot Mix Asphalt Technician (Continued)

Certified HMA Technician	Minimum Monitoring Requirement	References
Documentation		
Prepare daily plant report (Form 800241); FAX a copy to the DME.	Review entries the first day and weekly thereafter.	I.M. 508
Document all checks, tests, and quantities in field book in format provided by residency.	Review entries the first day and weekly thereafter.	
Determine and calculate hot mix asphalt pay quantities daily.	Review entries the first day and weekly thereafter.	I.M. 509
Maintain and monitor control charts.	*Review during monitor visits.	I.M. 508
Check for approved sources and certifications for all materials (including material transferred from other projects) and document deliveries.	*Check sources at time of calibration and monitor any changes.	
Assure total certified quantities are sufficient for tons produced.	Check once per week.	
Maintain file of all certified material tickets, worksheets, and forms submitted to be made available to the agency upon request.	Obtain file of plant reports and control charts at end of project	Specification 2521
Maintain control charts and data sheets. Document all mix control changes. Document correlation results.	*Monitor summary sheet daily.	Specification 2303
FAX a copy of the Summary sheet to the DME daily.	Obtain copies of control charts and summary sheets at the end of the project.	
Mix Control		
Monitor coating of aggregates and mixing time.	*Observe production during monitor visits. Observe each day of production by grade inspector.	Specification 2303 I.M. 508
Monitor and record air, asphalt binder, and mix temperatures on 2-hour intervals.	*Check during monitor visits.	Specification 2303
Monitor truck loading procedures, amount of mix maintained in silo and operation of hopper/silo gates to avoid segregation.	*Observe during monitor visits.	Specification 2303 I.M. 508
	*To be performed by District Materials.	

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Check aggregate proportions, interlocks, and cold feed bin gate settings daily.

Inspect trucks for proper/improper use of cleaning fluids.

Prepare boxes and Form 820193 (Samples Submitted) and send to road for hot samples.

Asphalt Binder DeliveryTank Stick:

Determine quantities on hand and calculate asphalt binder added by tank stick or weighing.
Compare with brodie meter daily.

In-Line Flow Meter:

Determine quantity by meter reading. Obtain a 4-hour tank stick measurement weekly and furnish calculated quantity to plant monitor.

HMA Mixture Sampling

Responsible for proper and random sampling of hot HMA mixture behind paver.
Sampling frequency in accordance with Specification 2303.

Minimum Monitoring Requirement

* Monitor at calibration and during monitor visits.

Monitor at random.

Monitor first day and once per week at random.

Witness the 4-hour tank stick measurement and compare the calculated outage with the 4-hour metered quantity.

Monitor daily by plant monitor or grade inspector.

*To be performed by District Materials.

References

I.M. 508
I.M. 511

Article 2001.01

I.M. 509
Specification 2303

I.M. 322
Specification 2303